

AN INVESTIGATION OF THE INFORMATION SEEKING BEHAVIOR OF MEDICAL ONCOLOGISTS IN METROPOLITAN PITTSBURGH USING A MULTIMETHOD APPROACH

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Background. As a multi-disciplinary area in medicine, medical oncology has unique information needs. Patients with cancer may be managed by several physicians with varied areas of medical expertise and clinical perspectives on the patient's problem. As a result, the medical oncologist often is required to interact with a variety of other medical specialists in the course of the diagnosis and treatment of the cancer patient. The multiplicity of diagnostic and therapeutic option including imaging technologies, requires the oncologist to be both familiar with these tools and actively involved in both information seeking and dissemination.

There has been a significant amount of attention given to the role of information and information seeking behavior in the practice of medicine as well as to provide data to support the development of clinical information retrieval systems(1, 2). The information environment in medical oncology has been characterized by an emphasis on data collection and analysis for patient management, clinical trials, and cancer research(3). The advent of multimedia clinical information systems such as Image Engine, an integrated multimedia clinical information system(4) and the growing influence of networked information resources and patient information resources in oncology on the World Wide Web(5) to support clinical decision making suggests the use of these systems in the practice environment in the near future.

Research Method. We will perform a mail survey of 110 medical oncologists, observe a subset of 10 medical oncologists using a structured observation instrument, and perform a semi-structured personal interview of these same 10 medical oncologists here in the metropolitan Pittsburgh area, to gain an improved understanding of the factors that motivate information seeking and the process of information seeking behavior of medical oncologists in a variety of practice environments.

Conclusions. At present, this is research is a work in progress. We have recently begun the

mail survey component and are arranging interviews with a number of interested oncologists. It is our hope that the results of our multimethod research design involving the use of survey methodology, structured observation, and personal interview will accurately characterize the information need and information-seeking behavior of the medical oncologist in metropolitan Pittsburgh.

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References

1. Covell D, Uman G, Manning P. Information needs in office practice. Are they being met? *Annals of Internal Medicine* 1985;103:596-599.
2. Gorman PN, Helfand M. Information seeking in primary care: How physicians choose which clinical questions to pursue and which to leave unanswered. *Medical Decision Making* 1995;15:113-119.
3. Ambinder EP. Oncology and the Information Revolution. In: Holland JF, Bast RC, Morton DL, Frei III E, Kufe DW, Weichselbaum RR, eds. *Cancer Medicine*. Fourth ed. Baltimore, MD: Williams & Wilkins, 1997:3371-3386. vol 2).
4. Lowe HJ, Buchanan BG, Cooper GF, Kaplan B, Vries JK. Image Engine: An integrated multimedia clinical information system. In: Greenes RA, Peterson HE, Protti DJ, eds. *Eighth World Congress on Medical Informatics (MEDINFO)*. Vancouver, British Columbia, Canada: Healthcare Computing & Communications Canada, Inc., 1995:421-425.
5. Lowe HJ, Lomax EC, Polonkey SE. The World Wide Web: A review of an emerging Internet-based technology for the distribution of biomedical information. *Journal of the American Medical Informatics Association* 1996;3(1):1-14.